Palsonic

High Definition Digital Receiver

HDSTB300

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User Manual

Safety Information

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	

CAUTION: TO AVOID THE RISK OF ELECTRIC SHOCK,
DO NOT OPEN.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and servicing instructions In the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO WATER OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK. ENSURE 240V AC POWER PLUG IN FULLY INSERTED INTO THE POWER SOCKET.

CAUTION: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE MANUFACTURER WILL VOID THE USER'S WARRANTY.

WARNING: TO ENSURE RELIABLE OPERATION AND PREVENT THE HS-STB FROM OVER HEATING, YOU MUST REMOVE THE PROTECTIVE PLASTIC FILM FROM THE HS-STB COVER.

Important Safeguards

These important safeguard messages will help ensure your enjoyment and proper use of the HD-STB and accessories. Please read them carefully before you begin to operate your HD-STB product.

1. Read and Retain this User's Guide

This User's Guide should be read before the HD-STB is operated and retained for future reference

2. Use Correct Power

This HD-STB should be operated only from the type of power source indicated on the rear panel.

3. HD-STB Installation

Do not place HD-STB on an unstable trolley stand, tripod, bracket, or table as it may fall, causing serious injury to a child or adult and damage the HD STB.

4. Provide Antenna Ground

If an outside antenna or cable system is connected to the HD-STB, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. An outside antenna system should not be located in the vicinity or overhead power lines, or other power circuits, where it can fall onto such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching or approaching such power lines or circuits as contact with them might be fatal. Installing an outdoor antenna can be hazardous and should be left to a professional antenna installer.

5. Provide Proper Ventilation

Opening slots in the STB cabinet are provided for ventilation to ensure reliable STB operation and to protect it from overheating. HD-STB should not be located in an enclosed / built-in installation such as a bookcase unless proper ventilation is provided.
For sufficient ventilation, there must be at least 10cm free air space above, behind, top and on each side of the HD-STB.

6. Keep Away from Heat

Do not expose the HD-STB to direct sunlight. This product should be situated away from heat sources such as radiators, heat registers, stoves and other electronic products (including amplifiers) that produce heat.

7. Keep Away from Moisture

Do not use HD-STB near water or in wet areas such as near a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool and the like.

Caution: Maintain electrical safety, Power line operated equipment or accessories connected to this unit should bear the CE listing mark or C-Tick certification mark on the accessory itself and should not be modified to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire.

8. Do Not Open

Do not attempt to service this HD-STB, as opening or removing STB cover will expose you to dangerous voltages. To prevent of the risk of fire or electric shock, do not open the cabinet. There are no user serviceable parts inside the HD-STB. Refer servicing to qualified service personnel only.

9. Unplug before Cleaning

When cleaning the HD-STB, turn the HD-STB power off and unplug it from the wall AC outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning only.

10. Object and Liquid Entry

Never push objects of any kind through HD-STB openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

Never spill liquid of any kind on the HD-STB. In case of liquid spillage, please contact your qualified service centre.

11. For Additional Protection

For added protection during a lightning storm, or when left unattended for long periods of time, unplug the HD-STB from the AC wall outlet and disconnect the antenna and A/V cable system. This will prevent damage to the HD-STB from Lightning and power line surges.

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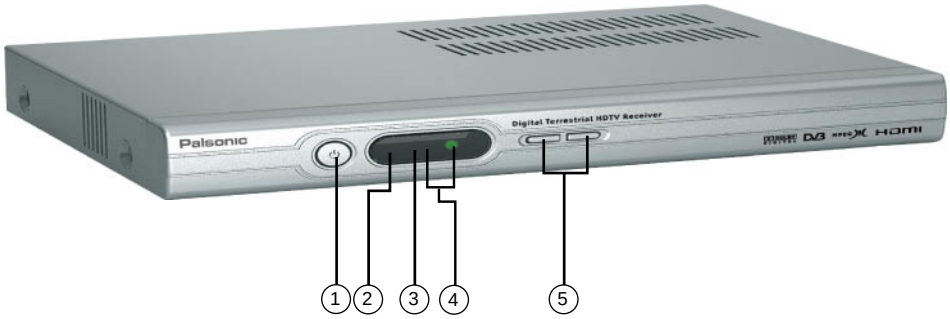
Overview of the equipment

This section summarises HD-STB buttons, controls, and terminals.

Front Panel

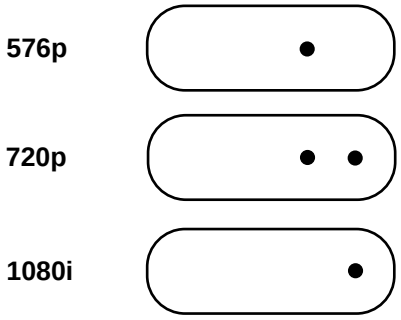


1. **POWER**
   Press to turn the HD-STB on or off.

2. **Power Indicator**
   Displays STB operation status. In power off mode, STB will display a RED light. In power on mode the RED light will flash to acknowledge a remote control key press.

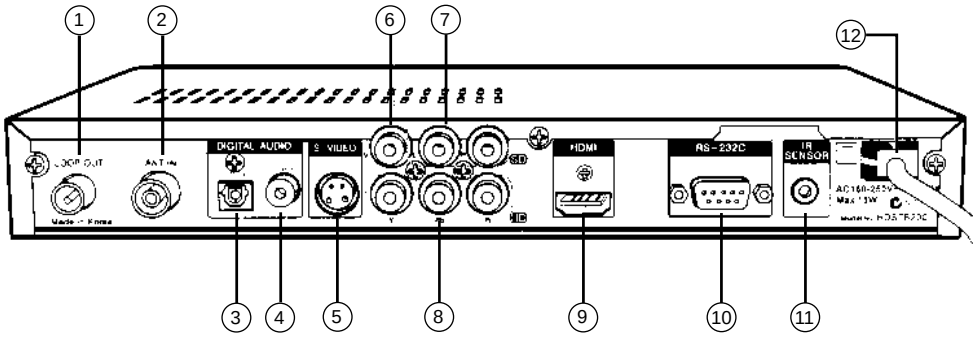
3. **Remote Sensor**
   Infrared red remote control sensor. To ensure reliable remote control operation do not place any objects in front of the sensor.

4. **Video Display Mode Indicators**
   Two green LEDs indicate the current HD video display mode setting LED combination is as follows:



5. **UP / DOWN**
   Channel up or down movement. These two buttons also change the HD video display mode as detailed on page 16.

Rear Panel



1. **LOOP OUT Terminal**
   Use this terminal to feed RF signal to your TV or VCR for analogue TV reception.

2. **ANT IN Terminal**
   Attach an external Antenna to this terminal.

3. **Optical Digital Audio (SPDIF) Output terminal**
   Use this terminal with A/V device equipped with Optical Digital input for Dolby* Digital 5.1-channel sound.

4. **Coaxial Digital Audio (SPDIF) Output terminal**
   Use this terminal with A/V device equipped with Coaxial Digital input for Dolby* Digital 5.1-channel sound.

5. **S-Video Output terminal**
   Use this terminal with your TV S-Video input.

6. **TV Composite Video Output terminal (CVBS)**
   Use this terminal with your TV Video input.

7. **AUDIO L/R (Analog Stereo Audio) Output terminal**
   This terminal can be used with your TV analog audio input. Refer to Audio Connection. Pages.

8. **HD YPbPr (HD Component Video) Output terminal.**
   Use this terminal with your TV HD Component Video input. (HDTV only)

9. **HDMI Output terminal**
   Use this terminal with your TV HDMI Video input.

10. **RS-232C**
    Use this terminal for software upgrade purpose only.

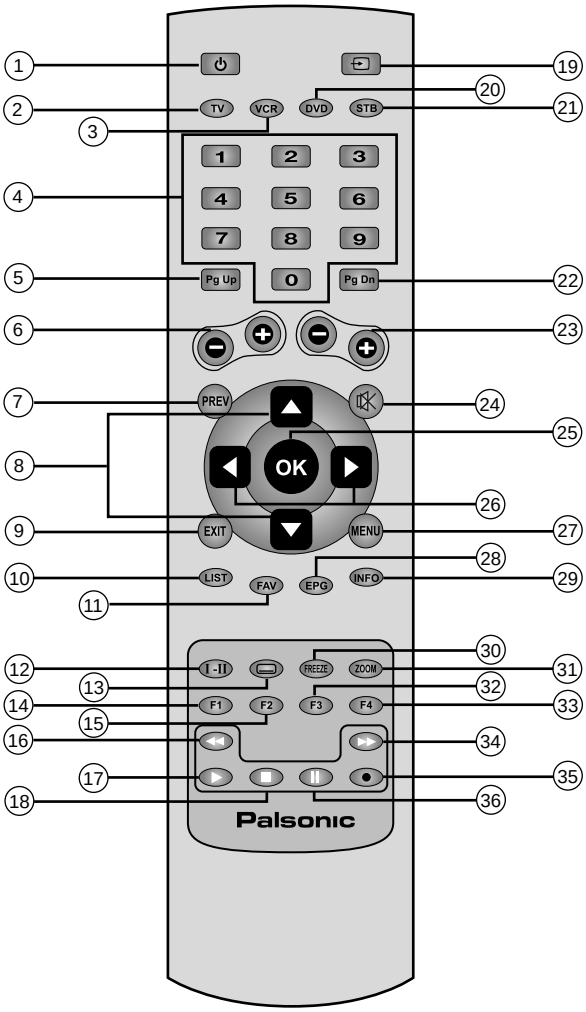
11. **External IR Sensor Terminal**
    Use this terminal for External IR Sensor connection.

12. **Power Cord**
    Plug this Cord to the specified AC Power socket.

- Manufactured under license from Dolby Laboratories. Dolby and the double-D Symbol are trademarks of Dolby Laboratories.

Overview of the equipment

Remote Control



1. POWER
Turn your HD-STB on or off.

2. TV
Change your Remote Controller to TV mode.

3. VCR
Change your Remote Controller to VCR mode.

4. 0~9 (Number Button)
Direct change the desired channel.
To change the channel, simply press desired channel number.
The button operation should be less than 2 seconds between button pressing.

5. **PgUp (STB Mode)**
   In the menu system, move up item list by page.

6. **CH+ / CH-**
   Change the TV/HDTV's analog channel / Change the STB's digital channel.

7. PREV (Previous Channel - STB mode)
   Go to the previous watched channel.

8. **Up / Down**
   In the menu system, move up or down the cursor.

9. **Exit**
   In the menu system, exit menu from any menu level.

10. **LIST (STB Mode)**
    Set & display ALL DTV channel list as the default channel list.

11. **FAV (STB Mode)**
    Set & Display FAV DTV channel list as the default favourite channel list.

12. **I-II (STB mode)**
    Switch between MPEG and Dolby Digital audio.

13. **Subtitle (STB Mode)**
    Enable/ disable program subtitles.

14. **RED (F1)**
    RED button. Also worked with function 1 button.

15. **GREEN (F2)**
    GREEN button. Also worked with function 2 button.

16. **REWIND**
    In the VCR or DVD mode, it works with REWIND button.

17. **PLAY**
    In the VCR or DVD mode, it works with PLAY button.

18. **STOP**
    In the VCR or DVD mode, it works with STOP button.

19. **AV (TV's External Video Input Selection)**
    Select the TV External Video Input.

20. **DVD**
    Change your Remote Controller to DVD mode.

21. **STB**
    Change your Remote Controller to STB mode.

22. **PgDn (STB Mode)**
    In the menu system, move down item list by page.

23. **VOL+ / VOL-**
    Change the TV/HDTV's volume level up or down.

Overview of the equipment

24. MUTE
Activate TV/HDTV's mute operation.

25. OK (STB Mode)
Confirm current menu item selection.

26. Left / Right
In the menu system, move the cursor left or right.

27. MENU (STB Mode)
Enter STB menu. Whilst in the STB menu, this key also functions as the BACK key.

28. EPG (Electronic Program Guide STB mode)
Activate Electronic Program Guide information broadcast by the DTV networks.

29. INFO (STB Mode)
Display current channel information. You can see the information of current channel.

30. FREEZE (STB mode)
Freeze the current picture while audio continues normally in the background.

31. ZOOM (STB Mode)
Zoom out 4:3 pillar box black bars. (Available on HD YpbPr and HDMI only).

32. YELLOW (F3)
YELLOW button. Also works with function 3 button.

33. BLUE (F4)
BLUE button. Also works with function 4 button.

34. WIND
In the VCR or DVD mode, it works with WIND button.

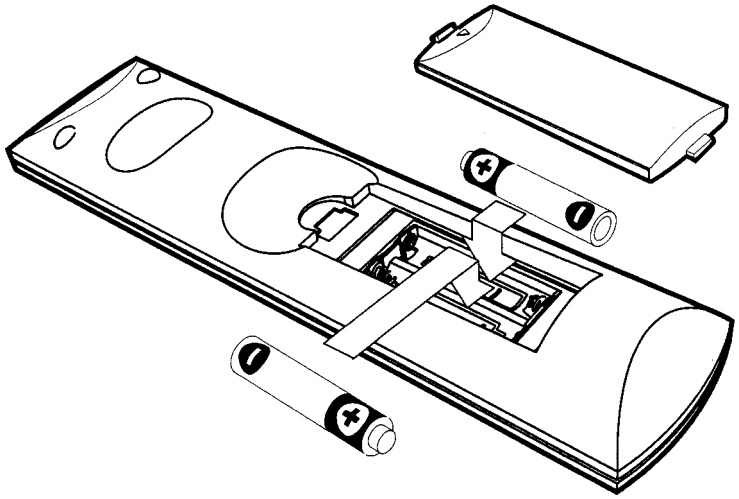
35. PAUSE
In the VCR or DVD mode, works with PAUSE button.

36. REC
In the VCR or DVD mode, it works with REC button.

Installing the remote control batteries

Cautions:
Always replace batteries in pairs of the same brand. Do not mix batteries from different brands or use an old and a new battery.
Replace old or weak batteries to avoid battery leakage which can damage the remote control.
Dispose old batteries thoughtfully with due respect to the environment. Do not incinerate old batteries.

l) Open the battery compartment on the back of the remote control.
2) Install two AAA (LR03) size batteries as shown.
Make sure the "+" and "-" terminals are oriented correctly.
3) Replace the cover.
4) After changing the batteries, please reset Remote Control Universal Code Setting.



Remote Control Universal Code Setting

This Remote Control is also compatible with a range of popular CE brands

To use this remote with other CE equipment, you must program the remote with a universal code number as detailed on page 36.

There are two methods of entering the universal code.

1. Using Automatic Code Search

1) Turn on the CE component (TV, VCR or DVD) you want to control.

2) Press and hold the CE component (TV, VCR or DVD) button until the LED on the remote control stays on, then release the button.

3) Point the remote at the CE component (TV, VCR or DVD) and press the UP (A) button, then wait for three seconds or until the LED stops flashing.
At this point the remote control is searching for the correct code. If, after three

seconds, the CE component (TV, VCR or DVD) does not turn off, press the UP (▲) button again which tells the remote to search the next set of codes.
Continue pressing and releasing UP (▲) button until the CE component (TV, VCR or DVD) turns off.

4) If the CE component (TV, VCR or DVD) turns off; press the OK button, and then the LED blinks three times.

2. Using Direct Entry Method

1) Turn on the CE component (TV, VCR or DVD) you want to control.

2) Refer the brand Code List on page 36 and locate your brand of the component you want to control.

3) Press and hold the CE component (TV, VCR or DVD) button you want to program until the LED on the remote control turns on, then release the key.

4) Enter 3-digit code from the code list, then the LED blinks three times.

5) If you get no response, repeat these steps using the next code listed for your brand until the CE component (TV, VCR or DVD) responds to the remote control command.

3. Using the remote control

1) Ensure there is a direct and unblocked line of sight between the remote control and the HD-STB.

2) Dark walls, direct sunshine or very bright light may reduce the remote sensor's sensitivity.

3) The remote control will not work correctly if you press several buttons at the same time.

4) Hold the remote control within an angle range of about 30 degree from either side of the remote sensor. The remote control range about 23 feet (7 metres) from the HD-STB.

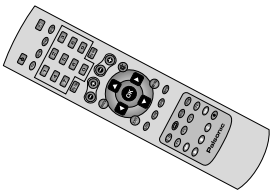
5) Remember to press the mode selection button (ie; TV, VCR or DVD) before pressing a remote control button to control the device.

Overview of the equipment

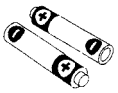
Accessories

Carefully remove the HD-STB from the carton. Check that the HD-STB has not been Damaged. The following accessories are included.

1. Wireless Universal Remote Control



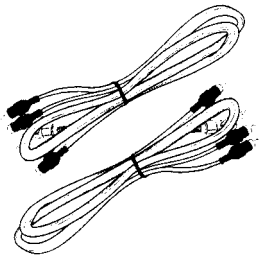
2. Two AAA (LR03) size batteries



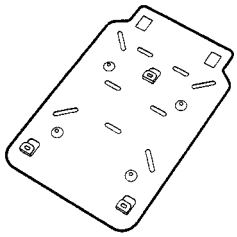
3. User Manual

4. A/V Cable

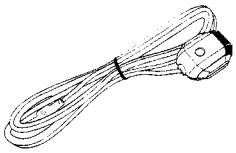
SD A/V Cable (Yellow/White/Red)
HD Video Cable (Green/Blue/Red)



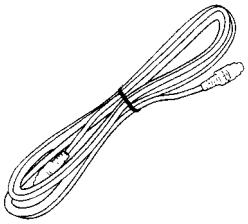
5. Bracket



6. External IR Module



7. RF Cable



Connecting your HD-STB

1. Antenna Connection

HD-STB, TV and VCR antenna connection

Connect IEC-Male antenna cable into HD-STB 'ANT IN' terminal.
Connect VCR 'ANT IN' cable into HD-STB 'LOOP OUT' terminal.
Connect VCR 'LOOP OUT' cable into TV RF IN terminal. (Refer to Fig. 1)

HD-STB and TV antenna connection

Connect IEC-Male antenna cable into HD-STB 'ANT IN' terminal.
Connect HD-STB 'LOOP OUT' cable into TV RF IN terminal. (Refer to Fig. 2)

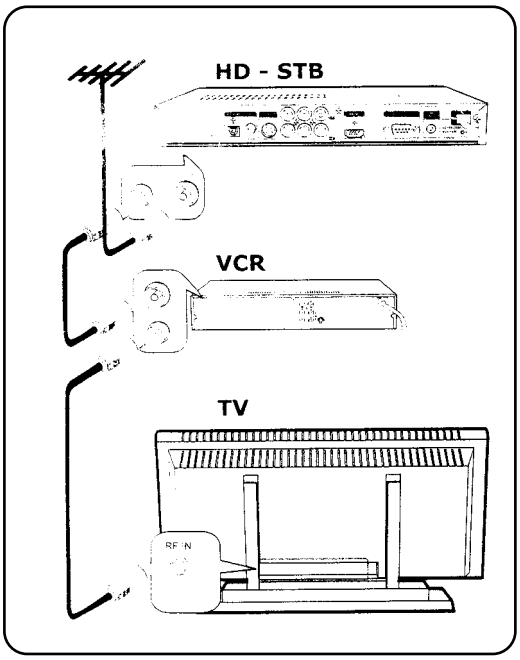


Fig. 1 HD-STB, TV and VCR antenna connection

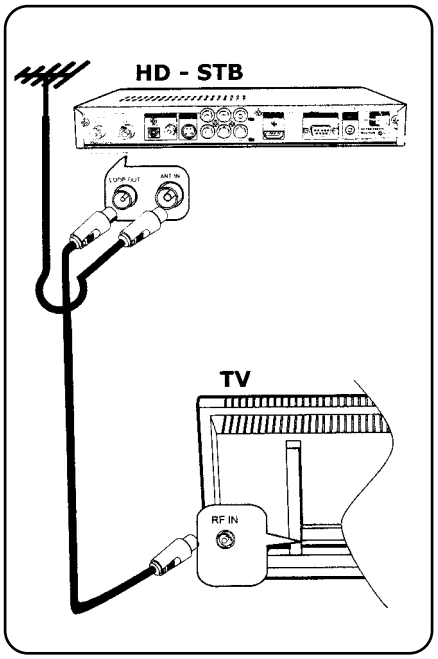


Fig. 2 HD-STB and TV antenna connection

To ensure optimum DTV reception the HD STB must be the first device connected to the antenna system when daisy chaining RF input / output products such as VCRs, DVD Recorders and analog television as illustrated in Fig. 1 and 2.

2. Video Connection

HDMI (High Definition Multimedia Interface) connection

HDMI is the new digital inter-connection standard that carries digital video & audio signals via a single cable.

HD-STB HDMI output supports the following 50Hz HD video modes: 1080i, 720p, and 576p SD via HDMI is not supported.

Connect HDMI cable between HD-STB and TV HDMI terminals as shown (Refer to Fig. 3)

The HD-STB HDMI connection is also DVI compatible when using a HDMI to DVI cable (not supplied) or HDMI to DVI gender changer (not supplied) (Refer to Fig. 4) When using a HDMI to DVI connection, a separate audio connection is also required between the HD-STB and display device.

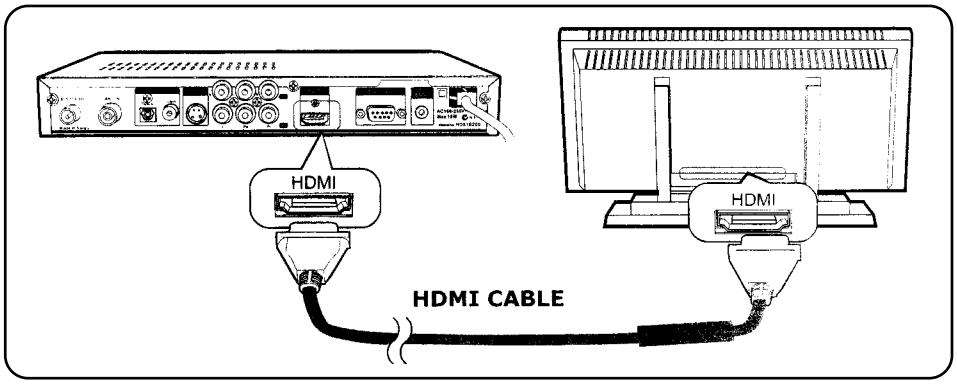


Fig. 3 HDMI to HDMI Input TV

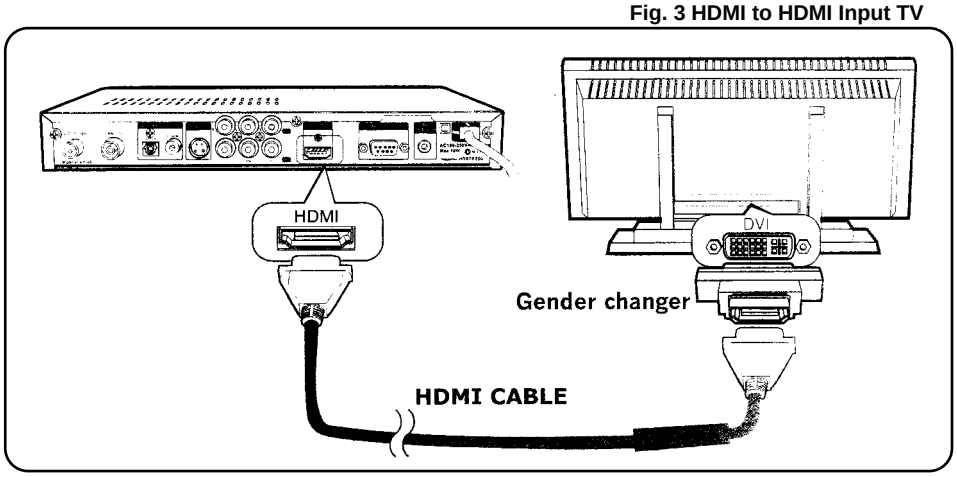


Fig. 4 HDMI to DVI Input TV

Connecting your HD-STB

Connecting to a HDTV with HD YPbPr

Connect YPbPr cable between HD-STB and your TV as shown in Figure 5.

HD-STB YPbPr output supports the following 50Hz HD video modes: 1080i, 720p and 576p SD via YPbPr is not supported.

1) Connect YPbPr Video cable to the HD terminal on the back of HD-STB
2) Connect the other end of the YPbPr cable to the HD YPbPr input terminal on the HDTV
3) Usually, the Y is Green colour. Pb is Blue colour, and Pr is Red colour assigned.
4) Setting Up the Display desired resolution.

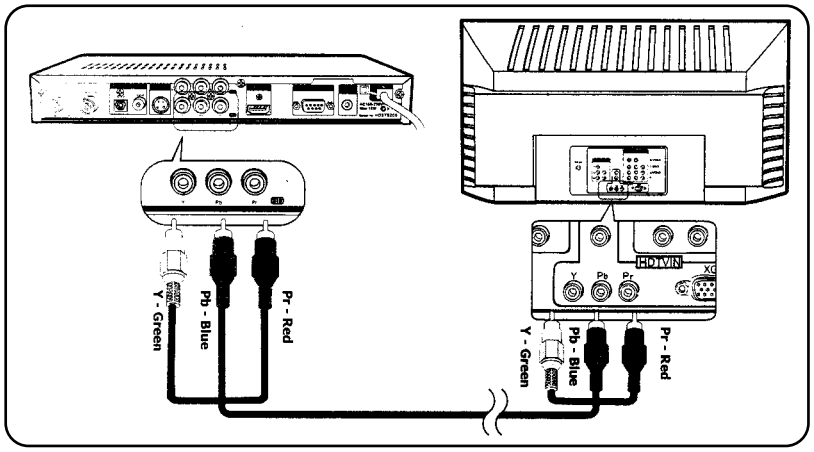


Fig. 5 HD YPbPr Video Connection

Connecting you HD-STB

This HD-STB simultaneous output the HD Video and SD Video. So, you can watch HD Video and recording SD Video at the same time.
For the SD Video connection, please refer below diagram.

Connecting to a Conventional TV with S-Video

Connect a S-Video cable to the S-Video terminal on the rear of HD-STB. Connect the other end of S-Video cable to the S-Video input terminal on the TV. (Refer to Fig. 6)

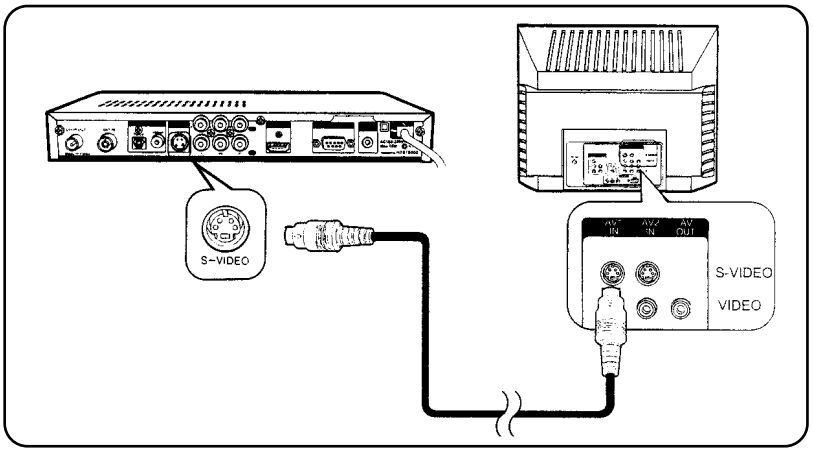


Fig. 6 TV with S-Video Connection

Connecting to a Conventional TV with Composite Video

Connect a Video Cable to the TV Video terminal on the rear of the HD-STB. Connect the other end of Video Cable to the Video input terminal on the TV. (Refer to Fig. 7)

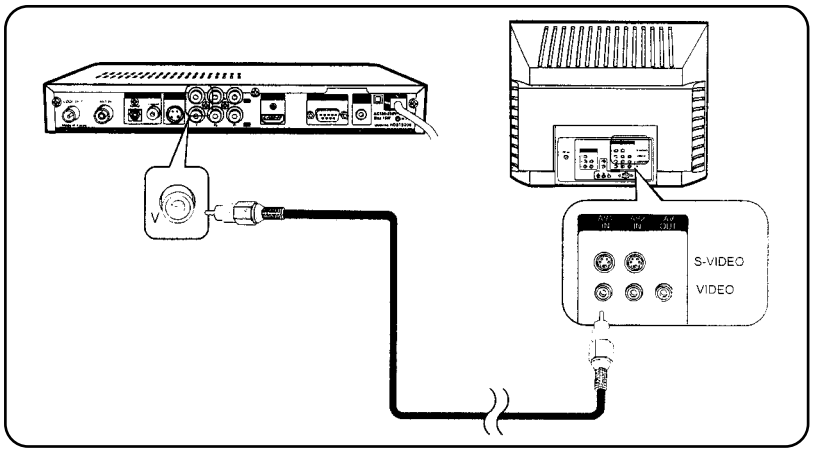


Fig. 7 TV with Composite Video Connection

This HD-STB can support four different options for connecting audio signals. Each of the audio connections delivers the same audio sound. You can select desired audio connection by following the Audio connection Diagrams below.
Pease make sure, if you are using HDMI connection, you do not need this Audio Connection. The HDMI connection is already included Digital Audio internally.

Stereo Audio Connection

Audio L/R deliver analog stereo sound or Dolby Digital 2-channel downmix analog stereo sounds. Connect Audio Cable to Audio L/R terminal on the rear of the HD-STB.
Connect the other end of the Audio Cable to the conventional TV Audio input or Stereo Amplifier Audio Input. (Refer to Fig. 8)

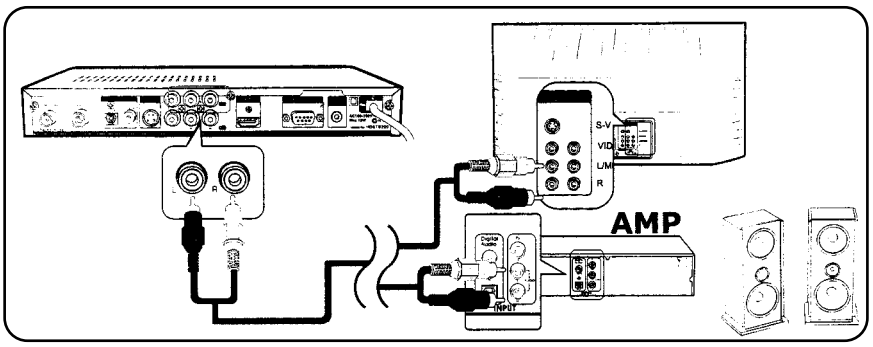


Fig. 8 Stereo Audio Connection

Digital Audio Connection

Optical Digital Audio and Coaxial Digital Audio deliver Dolby Digital 5.1-channel digital sound or PCM digital sound.
If you have a Home Theatre system and it can receive Digital Audio, then you can connect Digital Audio.

For the Optical Digital Audio connection, connect the Optical Digital Audio Cable (Available in Local Store) to the Optical Audio terminal on the rear of the HD-STB. Connect the other end of the Optical Digital Audio Cable to the Optical Audio input terminal on the Home Theatre System.

For the Coaxial Digital Audio connection. connect the RCA Cable to the Coaxial Audio terminal on the rear of the HD-STB. Connect the other end of the RCA Cable to the Coaxial Audio input terminal on the Home Theatre System. (Refer to Fig. 9)

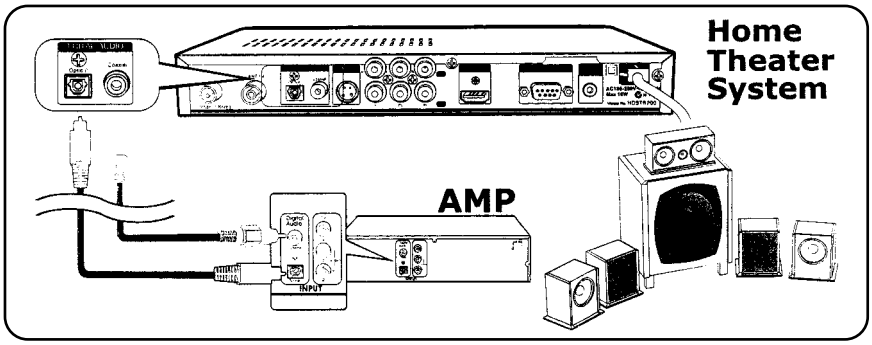


Fig. 9 Digital Audio Connection

4. Display Mode Change

This HD-STB supports simultaneous video output of HD and SD.
For HD output, it required display mode setting.
This HD-STB supports Native 1080i/50Hz, Native 720p/50Hz and Native 576p/50Hz.
The factory default is Native 1080i/50Hz.
For change the output display mode, please check up your TV support display mode. To determine which resolution your HD input television supports, please consult the Television's user manual.

For change display mode, please follow below procedure.

1) Press front panel UP and DOWN button simultaneously.
2) Press front panel UP or DOWN button for desired display mode.
   The OSD will show selected mode and LED indicator will blink.
3) Press front panel UP and DOWN button simultaneously again to change selected Display Mode.

STB Connection to 576p/720p/1080i High Definition Display

Most Plasma and LCD display and some CRT television with HD input(s) fall into this category. To determine which resolution(s) your display support, consult the user manual for your display device.

STB Video Output	Video Output Scan Frequency	STB Video Connection
1080i	28.125 KHz	HD-YPbPr HDMI
720p	37.500 KHz	
576p	31.250 KHZ	

STB Connection to Standard Definition Display

Most existing 4:3 televisions fall into this Category.
For optimum SD picture quality, we recommend S-Video connection. If your TV sets dose not supports S-Video then you should use the composite (CVBS) Video input. (Yellow cinch socket)

STB Video Output	Video Output Scan Frequency	STB Video Connection
576i	15.625 KHz	S-Video and CVBS

Getting Started

Step 1. Unpacking and accessories.

After open the gift box, you should check up and find the following items.
- Digital HD-STB
- Universal Remote Control
- 2 Batteries AAA (LR03) size
- User Manual
- SD A/V Cable (Yellow/White/Red) & HD Video Cable (Green/Blue/Red)
- Bracket
- External IR Module
- RF Cable

If you find a missing or broken parts, then ask your supplier or contact the service centre.

Step 2. Remove protective plastic film.

Remove protective plastic film from HD-STB top cover.

Step 3. Connect ANT Cable.

Connect external ANT cable to ANT IN.
Connect another ANT cable between LOOP OUT of HD-STB and ANT IN of TV for analog reception.

Step 4. Connecting the Video.

Prepare HD-STB and HDTV you want to connect.
There are several methods to connecting the video. You should find the correct connection method for your HDTV. Please refer to the Video Connection Diagram.

Step 5. Connecting the Audio.

Prepare HDTV or Audio equipment you want to connect.
If you are using HDMI connection, you do not need audio connection.

There are four different connection methods for Audio connection. For general TV analog audio connection, it has Audio L/R.

For digital audio connection, you should prepare Optical Audio cable for optical audio connection with Home Theatre Equipment.
If your Home Theatre Equipment system has coaxial digital input, you can use well-shielded RCA cable for coaxial audio connection.

Step 6. Connecting the Power.

Plug the Power Cord to wall AC outlet. The power source is AC 180-250V, 50/60Hz.
This unit is designed for continuous operation. Switching it off does not disconnect it from the AC outlet. To disconnect this HD-STB from AC outlet, you have to unplug the HD-STB.

Step 7. Display Mode Setup.

The default display mode is native 1080i. If you need change the display mode, press the UP and DOWN button at the front panel simultaneously for display mode change.
Press UP or DOWN button at the front panel to select desired display mode.
Press UP and DOWN button concurrently to confirmed display mode change.

Step 8. Install Remote Control battery and Universal Code setting.

Install Remote Control battery. The battery has polarity so when insert the batteries make sure the "+" and "-" terminals are oriented correctly. The mode selection, buttons are TV, VCR. DVD and STB. You can change the code of other CE component with this mode button. For more detailed information, please refer to the Remote Control Universal Code Setting section.

Step 9. Check up the On Screen Display.

For verify correct setting of Display Mode, you should check up the OSD from HDTV's display screen.
Turn on the HD-STB and HDTV. Press Menu button on the remote control, you should check up the OSD for verify A/V connection. If you cannot find any OSD in your TV display, please check up again the Display Mode Setting and A/V connection.

Step 10. Automatic Channel Search and Channel Change.

Please set the time Zone and perform the Automatic Channel Search to find possible channels. Please make sure, you should wait until fully searched. Normally, it will take several minutes.

If you setting up the favourite channel using Favourite Setup in the menu system, you can change the channel using "CH+" or "CH-" between selected favourite channels.

Please make sure in favourite channel mode, the channel change operation is based on Favourite Setting in the internal memory. If you unmark the channel in the favourite list, you cannot access the channel using "CH+ of "CH-" button. At that time, please perform the Favourite Setup and mark the Channel in the favourite list.

Using the MENU System

From here you can adjust whole setting and function of HD-STB.
If you press the MENU button, the menu screen will display.
You can move up and down using UP or DOWN button in the menu system. Press OK or RIGHT button to select the items. MENU button will go back to one step back.
If there is no remote control activity more than 60 sec, then all menu will automatically disappear for prevent unwanted operation.

1. User Preference

From here you can adjust User Preference settings concerning your TV.

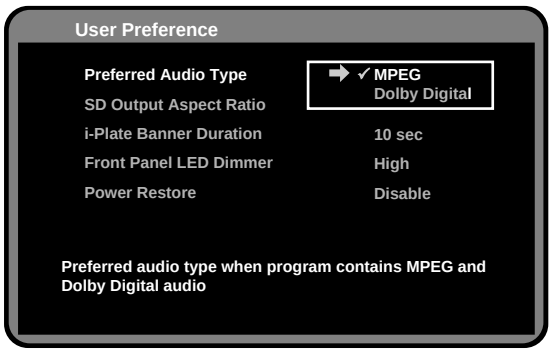
Preferred Audio Type (I-II)

You can select desired audio signal from broadcaster. If you select Dolby Digital and broadcaster simultaneous broadcast the Dolby Digital and MPEG audio, then your HD-STB will check up the Dolby Digital audio first and decode Dolby Digital audio.

If you select Dolby Digital but broadcaster broadcast MPEG audio only, then your HD-STB will check up the Dolby Digital audio first and next select MPEG audio automatically.

Also you can set up Audio Preference (I-II) with I-II button on the remote control. But this change is affected to selected channel only If you change channel or turn off the HD-STB, then default audio type be selected.

1) Press MENU to display the menu.
2) Press OK or RIGHT to select the User Preference menu.
3) Press RIGHT to select sub-menu.
4) Press UP or DOWN to select desired audio mode.
5) Press OK or RIGHT to save the selected audio mode.
6) Press MENU to exit the menu.

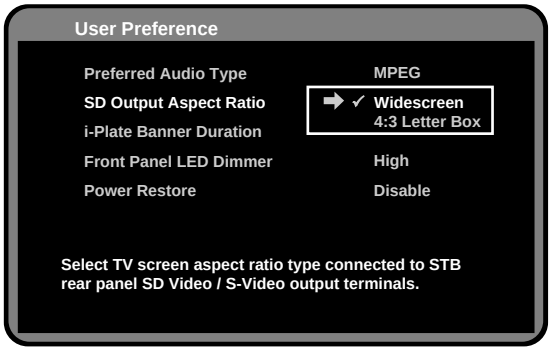


SD Output Aspect Ratio

You can select best fitting display mode for your SD TV screen.

This function is available only Composite Video and S-Video output when the 16:9 source is coming from Broadcaster. The 16:9 format is the standard mode for most wide TV screens. You can select Widescreen or 4:3 Letter Box for fit your SD TV's screen.

1) Press MENU to display the menu.
2) Press OK or RIGHT to select the User Preference menu.
3) Press DOWN to select display format menu.
4) Press RIGHT to select sub-menu.
5) Press UP or DOWN to select desired display format.
6) Press OK or RIGHT to save the selected display format.
7) Press MENU to exit the menu.



i-Plate Banner Duration

You can adjust Information Banner (i-Plate) time duration. If you feel i-Plate time is too long or short, you can select time out period using i-Plate Banner Duration setup. It is affected with i-Plate and 7-DAY EPG display.

Front Panel LED Dimmer

You can adjust front LED display brightness. If you feel the front panel LED is too brighter or darker, you can adjust the brightness of LED display using Front Panel LED Dimmer setup.

Power Restore

This HD STB has Power Restore function If you setup the Power Restore to Enabled and when AC main power is restored, the HD-STB will automatically turn on and display final memorised channel. It is useful for multiple display or exhibition for control the HD-STB. After setup the Power Restore to Enabled, just turn on the AC main power for HD-STB on and turn off the AC main power for HD-STB off. The factory default value is Power Restore Disabled.

Using the MENU System

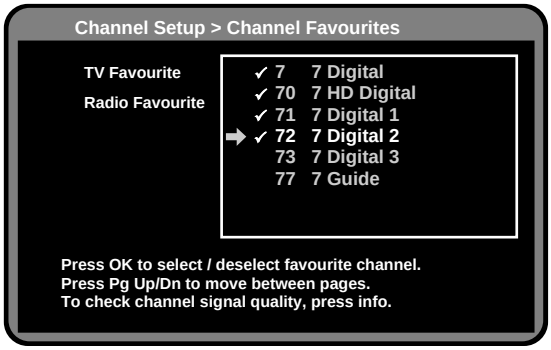
2. Channel Setup

From here you can adjust Favourite Setup settings or channel search concerning your TV. After automatic channel scan, you can assign whole scanned channels to TV Favourite List or Radio Favourite List.
You can change channel list mode by pressing LIST button or FAV button.

Channel Favourites

You can assign any scanned channel to TV Favourite List / Radio Favourite List. After assigned each channel to Favourite List, then it will appear in FAV Channel list.
Here is the TV Favourite List setup procedure.

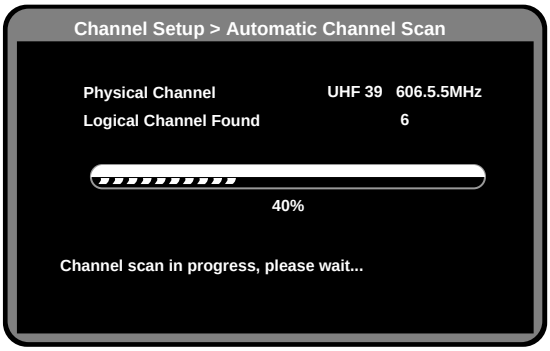
1) Press MENU to display the menu.
2) Press DOWN to select the Channel Setup menu.
3) Press OK or RIGHT to enter Channel Setup menu.
4) Press OK or RIGHT to enter Channel Favourites menu.
5) Press OK or RIGHT to enter to TV Favourite edit display.
6) If you want add or exclude individual channel, press RIGHT or OK to select to individual channel list.
7) In this sub menu, press INFO button for display selected channel signal status. For quit signal status, press INFO button again. It is useful for duplicate channel presence.
8) Press Menu to go back.


Channel Setup > Channel Favourites
TV Favourite
Radio Favourite
✓ 7 7 Digital
✓ 70 7 HD Digital
✓ 71 7 Digital 1
✓ 72 7 Digital 2
73 7 Digital 3
77 7 Guide
Press OK to select / deselect favourite channel.
Press Pg Up/Dn to move between pages.
To check channel signal quality, press info.

Automatic Channel Scan

From here, the HD-STB will perform automatic scan the whole channel frequency for available digital channels. It will take several minutes. In the process of Automatic Channel Scan, the searched channel will memorise to the internal memory. After that, you can assign these channels to Favourite Channel List.

1) Press MENU to display the menu.
2) Press DOWN to select the Channel Setup menu.
3) Press OK or RIGHT to enter Channel Setup menu.
4) Press DOWN to select Automatic Channel Scan.
5) Press OK or RIGHT to go to Sub menu.
6) Press OK to Start Automatic Scan procedure.
7) The Automatic Scan procedure will take several minutes.
8) After finished the Automatic Scan procedure, the searched program will automatic memorise in the internal memory.
9) The menu will be exited automatically.

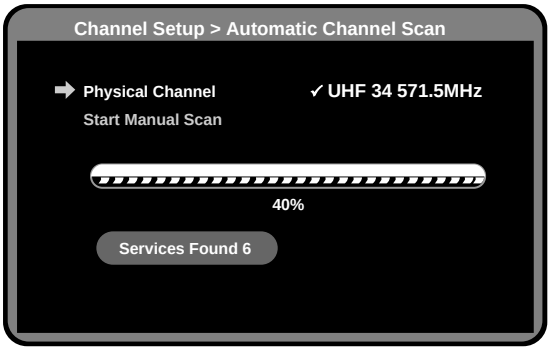


Manual Channel Scan

You can manually find the program in one of the specific channels. When you perform Manual Channel Scan you need to select the local broadcaster digital channel number. In this process, the HD-STB will try to find available digital program in the selected channel number. After finished Manual Channel Scan, the HD-STB will memorise to the internal memory.

1) Press MENU to display the menu.
2) Press DOWN to select the Channel Setup menu.
3) Press OK or RIGHT to enter Channel Setup menu.
4) Press DOWN to select manual Channel Scan.
5) Press OK or RIGHT to go to Sub menu.
6) For select Physical Channel. Press RIGHT or OK to display physical channel table.
7) Press UP/DOWN or PgUp/PgDn to select physical channel number.
8) Press OK or RIGHT to select the channel you want to manual scan.
9) Press LEFT to return.
10) Press DOWN to select Start Manual Scan.
11) Press OK to Start Manual Scan. Also the progress bar will display scanning progress.
12) After finished the Manual Channel Scan, the searched program will automatically memorised to the internal memory. Press MENU to go back.

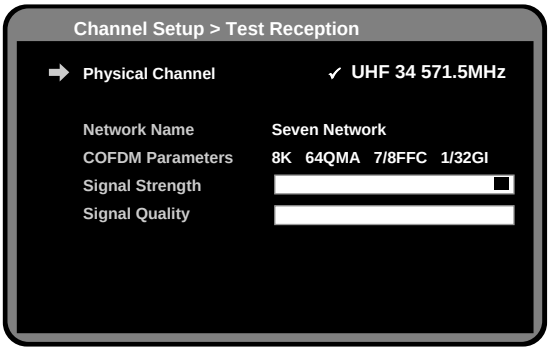
Using the MENU System



Test Reception

You can review your aerial signal strength using this menu.
In this menu, you can check up the Network Name, COFDM Parameters, Signal Strength and Signal Quality.

1) Press MENU to display the menu.
2) Press DOWN to select the Channel Setup menu.
3) Press OK or RIGHT to enter Channel Setup menu.
4) Press DOWN to select Test Reception.
5) Press OK or RIGHT to go to Sub menu.
6) For change physical channel, Press OK or RIGHT again to display physical channel list.
7) Press UP/DOWN or PgUp/PgDn to select the physical channel you want to check up the signal strength.
8) Press OK or RIGHT to change physical channel.
9) Press LEFT to return. You can check up and review the signal strength, quality and signal related information.
10) Press MENU to go back.

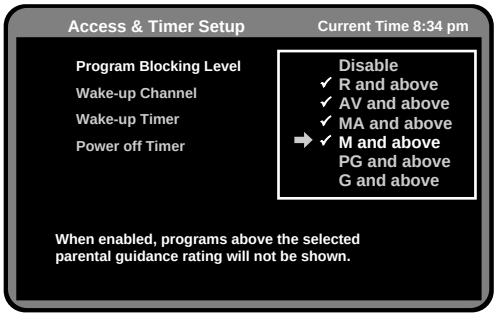


3. Access & Timer Setup

Program Blocking Level

You can setup channel blocking level with this item. If current channel having a lower level than Program Blocking Level which you setting up previously then the display will be blanked and shows blocked message with OSD. Whenever you enter Program Blocking Level menu. HD-STB always asking you PIN code.

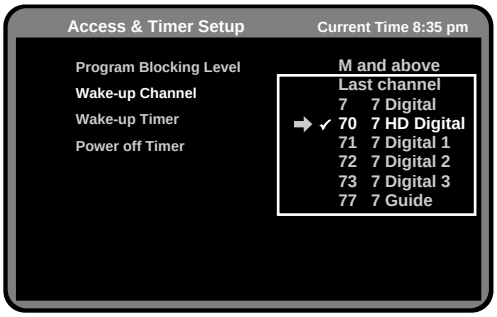
1) Press MENU to display the menu.
2) Press DOWN to select the Access & Timer Setup menu.
3) Press OK or RIGHT to select Access & Timer Setup menu.
4) Press OK or RIGHT to go to Sub menu.
5) HD-STB will ask you enter the PIN code.
6) Press UP or DOWN to select the Program Blocking Level you want to setup.
7) Press OK or RIGHT to change Program Blocking Level.
8) Press MENU to go back.



Wake-up Channel

You can select any channel when Wake-up Timer is turned on the HD-STB. The default is last watched channel. For select the desired channel, you should setting up the Wake-up Channel.

1) Press MENU to display the menu.
2) Press DOWN to select the Access & Timer Setup menu.
3) Press OK or RIGHT to select Access & Timer Setup menu.
4) Press DOWN to select Wake-up Channel menu.
5) Press OK or RIGHT to go to Sub menu.
6) Press UP or DOWN to select desired channel you want to setup.
7) Press OK or RIGHT to change desired channel.
8) Press MENU to go back.

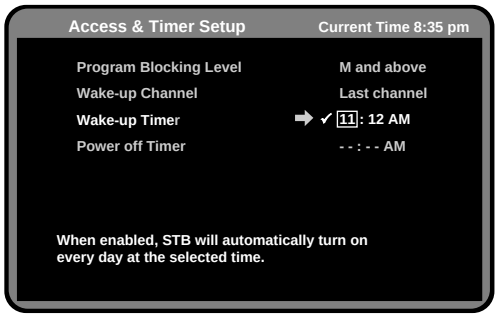


Using the MENU System

Wake-up Timer

You can setup the Wake-up Timer for automatic turn on the HD-STB.
When the setting up time is reached, the HD-STB will automatic turn on and display setting up channel. This Wake-up Timer is operating daily. You can refer current time upper side right of the OSD.

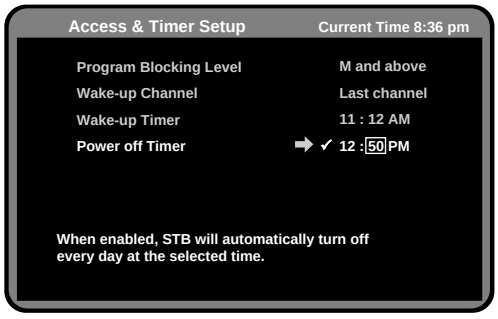
1) Press MENU to display the menu.
2) Press DOWN to select the Access &Timer Setup menu.
3) Press OK or RIGHT to select Access & Timer Setup menu.
4) Press DOWN to select Wake-up Timer menu.
5) Press OK or RIGHT to go to Sub menu.
6) Press UP or DOWN button enabling sub menu.
7) Use UP/DOWN or numeric button to change time.
8) Press LEFT or RIGHT to move each item.
9) After finished setup, press MENU or LEFT to go back.


Access & Timer Setup
Current Time 8:35 pm
Program Blocking Level
M and above
Wake-up Channel
Last channel
Wake-up Timer
✓ 11: 12 AM
Power off Timer
- - : - - AM
When enabled, STB will automatically turn on every day at the selected time.

Power-off Timer

You can setup the Power off Timer for automatic turn off the HD-STB.
When the setting up time is reached, the HD-STB will automatically turn off. This Power-off Timer is operating daily.

1) Press MENU to display the menu.
2) Press DOWN to select the Access &Timer Setup menu.
3) Press OK or RIGHT to select Access &Timer Setup menu.
4) Press DOWN to select Power-off Timer menu.
5) Press OK or RIGHT to go to Sub menu.
6) Press UP or DOWN button enabling sub menu.
7) Use UP/DOWN or numeric button to change time.
8) Press LEFT or RIGHT to move each item.
9) After finished setup, press MENU or LEFT to go back.


Access & Timer Setup
Current Time 8:36 pm
Program Blocking Level
M and above
Wake-up Channel
Last channel
Wake-up Timer
11 : 12 AM
Power off Timer
✓ 12 : 50 PM
When enabled, STB will automatically turn off every day at the selected time.

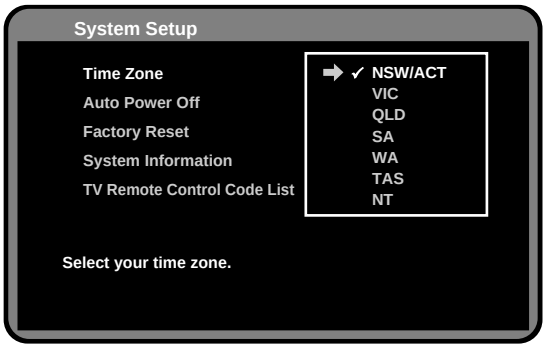
4. System Setup

From here you can setup Time Zone, Auto power off, Factory Reset and check up the HD-STB's system information.

Time Zone

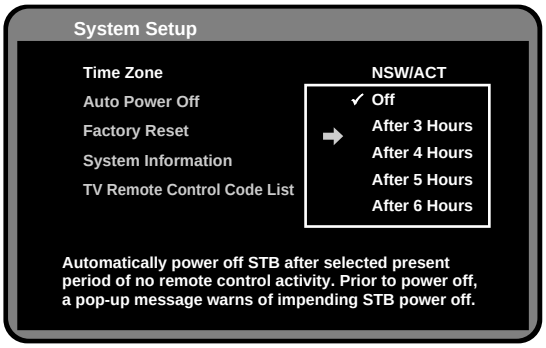
From here you can setup the Time Zone. You should select the time zone information after factory Reset. It is for correct time display when EPG information is displayed.

1) Press MENU to display the menu.
2) Press DOWN to select the System Setup menu.
3) Press OK or RIGHT to select System Setup menu.
4) Press OK or RIGHT to enter sub menu.
5) Press UP or DOWN to select Time Zone.
6) Press OK or RIGHT to change Time Zone where you live.
7) Press MENU to go back.



Auto Power Off

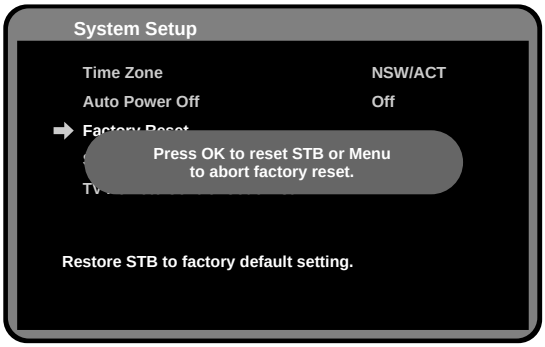
This HD-STB has Auto Power Off - Power Saver function. If you setup the Auto Power Off - Power Saver with period of times, then this HD-STB will automatically turn off after preset period of time in case of none remote control activity for prevent unwanted operation. Prior to turn off, a pop-up menu will warns of impending HD-STB power down. If you setup to Off, then this function will disable.


System Setup
Time Zone
Auto Power Off
Factory Reset
System Information
TV Remote Control Code List
NSW/ACT
✓ Off
After 3 Hours
After 4 Hours
After 5 Hours
After 6 Hours
Automatically power off STB after selected present period of no remote control activity. Prior to power off, a pop-up message warns of impending STB power off.

Using the MENU System

Factory Reset

The HD-STB will erase all of current setting value and go to factory default setting after Factory Reset. The HD-STB asked to confirm to Factory Reset. You should enter your PIN code. Press OK to confirm Factory Reset. The HD-STB will be restored factory default value and restart automatically. After Factory Reset, you should set the Time Zone and perform the Automatic Channel scan for correct menu operation. The default PIN code is "0000". You can not change the default PIN code value.

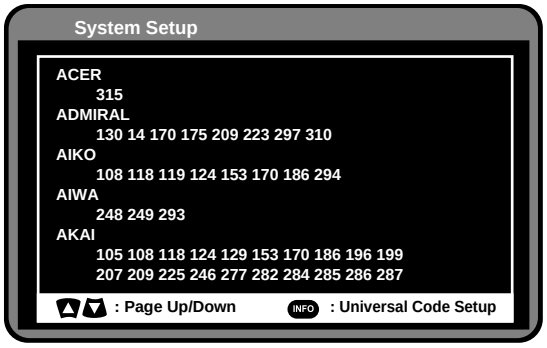


System Information

You can find System information from this menu. It will display Manufacturer, Model Name, Software Version and Hardware Version.

Remote Control Code List

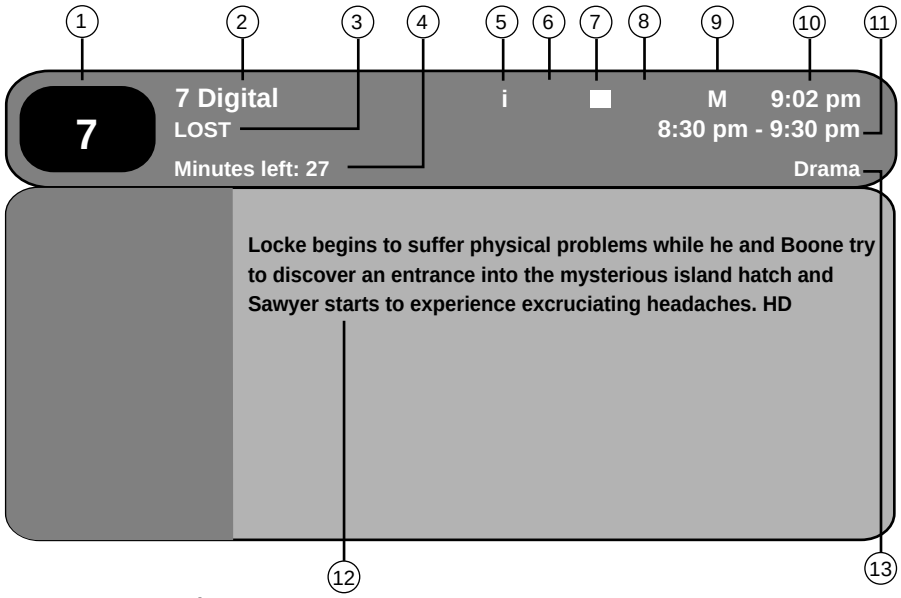
From here you can look up most popular CE component remote control code list. You can setup your CE component remote control code follow the list. Please refer detailed setup instruction on page 8.



Using the Remote Control Button

1. Using INFO button

This HD-STB has the ability to display additional information about programs.
By pressing INFO button white watching TV you will get simple program information.
By pressing INFO button again you will get the detailed NOW program information display.
By pressing INFO button again, you will get the detailed NEXT program information Display. Press INFO button fourth time to return to TV mode. You can quit the program Information display at any time by pressing MENU or EXIT button.



1. **Program Number**
   It is Program Number. It is also called Logical Channel Number.
2. **Program Provider Name**
   It showed current program provider's name.
3. **Program Title**
   It showed program title.
4. **Remain Program Time**
   It shows remained program time.
5. **Information Display**
   It showed the program has additional information.
6. **Sound Mode Display**
   Display the program has additional sound mode present.
7. **Subtitle Information**
   Display the program has subtitle present.
8. **Fav Mode Indicator**
   It indicates current channel mode whether FAV mode or ALL channel list mode.
9. **Rating Information**
   It showed program's rating Information for Parental Guide.

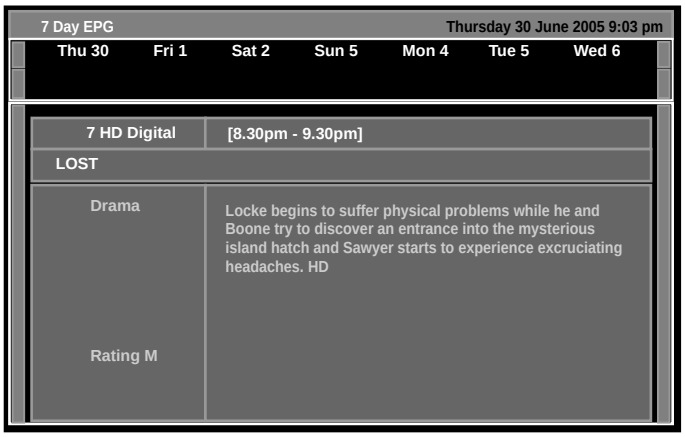
Using the Remote Control Buttons

10. **Current Time**
    It showed the current time
11. **Program Schedule**
    It showed the start and end time of program
12. **Information Contents**
    It displayed the current program's event title information contents. Pressing INFO button again, you can see the NEXT program information.
13. **Genre**
    It showed the program Genre.

2. Using EPG button

This HD-STB can display 7-day EPG information which channel is including EPG data. By pressing EPG button while watching TV you will get whole channel's 7-day EPG program information. You can surf date, time and program information using direction buttons. For the fast surfing between dates, press MENU Button to select date item.

If you want to get more detailed program information then press INFO button. Press INFO button again to return to 7-day EPG display. At any position, press OK to change to Desired channel.


7 Day EPG
Thursday 30 June 2005 9:03 pm
Thu 30
Fri 1
Sat 2
Sun 5
Mon 4
Tue 5
Wed 6
7 HD Digital
[8.30pm - 9.30pm]
LOST
Drama
Locke begins to suffer physical problems while he and Boone try to discover an entrance into the mysterious island hatch and Sawyer starts to experience excruciating headaches. HD
Rating M

3. Using LIST & FAV button

If you press LIST or FAV button on the remote control, ALL channel list or FAV channel list will be displayed respectively. In this menu you can navigate among channel list and change the channel directly by pressing OK button. If you have a lot of channels in the list, then press PgUp/PgDn button for faster move up or down.

4. Using ZOOM button

This HD-STB has specially designed PB ZOOM function. Press ZOOM button to swap between widescreen and PB ZOOM screen. In the PB ZOOM screen, this HD-STB will expand the original picture. Press UP or DOWN button to move the picture display position. In the 4:3 picture with side black bars, this PB ZOOM can eliminate side black bars. This PB ZOOM is affected with HD output only SD output cannot use PB ZOOM for prevent information loss when VCR recording. If you change the channel under PB ZOOM screen, then it will automatically release PB ZOOM and return to widescreen display. For release PB ZOOM, simply press ZOOM button again.

5. Using FREEZE button

You can freeze the picture using press FREEZE button in the remote control it will release the freeze picture automatically after 10 minutes. It is for preventing burn-in on flat panel screen.

Trouble Shooting Guide

Your HD-STB is designed to give you trouble-free performance for many years. If you have a problem with your HD-STB, try the solutions listed below.

Problem	Possible Cause	What to do
The display on the front panel does does not up.	Power cable is not connected.	Check up the Power cable which is plugged in to the AC wall mounted socked.
No Sound or Picture but the front LED shows RED light.	The HD-STB is not powered ON.	Press the power button on the front or remote controller to powered ON status.
Pixelated picture.	Signal to weak or No antenna connect.	Check the antenna or antenna connection. Simply check the analog reception of TV.
No Picture, Sound OK.	The HDTV does not support selected Video Resolution.	Check the Video Display Mode. Refer Display Mode Change on page 16.
The Sound is OK but the Picture is Blank. The Picture is OK, but the Sound is Blank.	Audio or Video Connection is not good.	Check up the Audio/Video cable or connection.
The remote control is not working.	Battery exhausted. Remote control is incorrectly aimed. Blocked the HD-STB front panel.	Change the batteries. Aim the remote control at HS-STB Check that nothing blocks the front panel.
The universal TV key is not working.	TV code is not setting.	Please refer to page 8.
The composite Video S-Video cannot work with PB Zoom.		It is normal. PB Zoom is working only HD Video Output.

Reception
Trouble Shooting Guide

After a channel scan, some channels or no channels are found

- **Your TV antenna may not be properly connected to your digital receiver**

    1. Did you connect your antenna as illustrated on Page 11? The HD-STB **must** be the **first** device connected to the antenna when daisy-chaining RF input / output products such as VCRs, DVD Recorders and analog televisions.

    2. Is the antenna wall socket in good condition? For optimum and reliable contact performance, the antenna wall connector should be an 'F' (screw) type connector.

    3. Are you using a quality antenna fly lead between antenna wall socket and HD-STB? The use of RG6 or RG59 Quad Shield 75 ohm coaxial cable fly leads with metal 'F' connectors provides a secure, reliable connection that also greatly reduces impulse noise pickup. Low cost antenna fly leads with right-angled plastic moulded connectors are a common cause of poor reception and impulse noise pickup.

- **Digital TV or some channels (services) may not have yet commenced in your area.**

    Consult with your retailer who has local knowledge on DTV broadcasting

- **The signal received may be too poor to allow the digital receiver to find some or all available channels or**

- **Your old antenna may not be designed to receive all DTV channels or**

- **Antenna reception performance has deteriorated due to weathering, corrosion of antenna Connections / cabling and broken elements.**

    Please contact your local TV antenna installer.

Generally, a quality suburban antenna installation consists of:

(1) Separate VHF (Ch's 6-12) and UHF (Ch's 27.69) antenna's (rule of thumb; larger antenna's with more elements capture more signal). If you live within 5-10Km of DTV transmission towers, a combined VHF/UHF antenna should be adequate. Outside this area, separate VHF and UHF antennas provide superior reception performance.

(2) A shielded diplexer that combines the separate VHF and UHF antenna signals into one signal. Depending on DTV signal conditions, some installations may instead require a VHF/UHF masthead amplifier.

(3) RG6 Quad Shield 75 ohm coaxial cabling 'F' connectors. These guidelines equally apply to regional installations except for the antenna, which, in most cases will be UHF only, since Most DTV broadcasting is usually located in the UHF bands.

TO AVOID PERSONAL INJURY AND PROPERTY DAMAGE, QUALIFIED ANTENNA INSTALLERS MUST PERFORM ANTENNA INSTALLATIONS, REPAIRS AND INSPECTIONS.

- **I am a home unit dweller**

    The existing Master Antenna TV (MATV) system may have been originally designed for analog PAL TV only, and may require a substantial upgrade or replacement to also carry DTV signals. Please consult your Body Corporate.

Reception Trouble Shooting Guide

Some channels display 'Poor/NoSignal' 'Check Antenna Connection'

- **Received signal is 'too weak' (i.e; poor quality) to generate a stable picture.**

  Please check antenna &cabling or contact your local TV antenna installer.

Picture regularly breaks up on some channels

- **The received signal may be too weak to allow the digital TV receiver to reliably 'lock' to the desired signal and generate a stable picture.**

  Please check antenna & cabling or contact your local TV antenna installer.

- **'Impulse Noise' interference from household appliances such as lights, refrigerators, washing machines, electric stoves etc may cause pictures to break up and audio to mute or distort momentarily.**

  In the first Instance, replace antenna fly-lead with a quality RG6 or RG59 Quad Shield 75 ohm coaxial cable fly lead. If problem persists, check / improve antenna & cabling or contact your local TV antenna installer.

- **A masthead amplifier may be 'over-boosting' the antenna signal, which is overloading the DTV tuner, resulting in poor reception on some or all channels.**

  Please contact your local TV antenna installer.

Picture very infrequently breaks up on some or all channels

- **Electrical atmospheric interference caused by local or distant lighting storms or heavy rain with wind in 'leafy' locations may cause pictures to break up and audio to mute or distort momentarily.**

- **Impulse noise interference from an infrequently used electrical appliance, Or a passing Vehicle or lawn mower with a 'noisy' ignition system.**

For further DTV reception trouble shooting information please visit the Digital Broadcasting Australia (DBA) website: www.dba.org.au

Specifications

Section	Detailed section	Explanation
Terrestrial Input Signal	Input Frequency	VHF 174MHz to 230MHz UHF 520MHz to 820MHz
	Transmission System	DVB-T/OFDM
	Channel Assignment	Australian Assignment
	Channel Bandwidth	7MHz
	Channel Offset	+/- 125KHZ
	Input Signal Level	-90dBm ~ -20dBm
	Antenna input	75Ω Female IEC-Connector (PAL Type)
	Loop Output	75Ω Male IEC-Connector (PAL Type)
	OFDM Spectrum Mode	2K and 8K Hierarchical
	Modulation Modes	QPSK, 16QAM, 64QAM
	Guard Interval Modes	1/32, 1/16, 1/8, 1/4 Active Symbol Duration
	FEC Modes	Rate 1/2, 2/3, 3/4, 5/6, 7/8
Video	Algorithm	MPE-2 compatible MP@ML, MP@HL
	Decoding Format	All of Australia Digital TV Standard
	Display Aspect Ratio	Widescreen or PB Zoom
	HD Digital Video Output	HDMI Output Native Mode: 1080i. 720p, 576p
	HD Analog Video output	HD YPbPr Output Native Mode: 1080i, 720p, 576p
	SD Video Output	S-Video (Y/C), Composite Video (CVBS)
Audio	Algorithm	MPEG-1 layers and 2, MPEG-2 layers 2 Dolby Digital (AC-3)
	Frequency Response	20Hz~20kHz < ±2db
	Sampling Frequency	32, 44.1 and 48kHz
	Analog Audio Output	Stereo (RCA phone jack), 2.0Vrms Max. >10K ohm (1 Sets)
	Digital Audio Output	S/PIDF optical (TOS Link) S/PIDF Coaxial (RCA)

Specifications

Section	Detailed section	Explanation
Controller Features	Main CPU	32 bit RISC
	SW Download	Upgrade via RS-232C (9 pin D-SUB connector)
	Menu System	Graphic User Interface
	Channel Memory	Max. 256 Channel
	Remote Controller	IR Remote Controller with Universal TV Key
Power	Power	AC 180 - 250V ~ 5%, Max. 15W
	Operating Frequency	50/60Hz 5%
	Standby Power Consumption	Less than 2W
	Power Protection	Slow Blow Fuse (250V, 2A)
Environmental Condition	Operating Temperature	0~ 40^0C
	Storage Temperature	-10 ~ +50^0C
	Operating Humidity	5% ~ 90% Non-condensed
	Storage Humidity	5% ~ 90% Non-condensed
	Weight	Approx. 1.3Kg
	Dimension	280mm x 39mm x 199mm (WxHxD)

Note : Specifications are subject to change without notice.

Using Direct Entry Remote Control Universal Code Setting

1) Locate your CE component brand in R/C Code List.

2) Turn on the component you wish to control.

3) Press &hold component key until component key red LED remains on, then release it.

4) Enter 3 digit code from the R/C Code list Component key LED flashes three times and TV switches off.

5) If component does not switch off, repeat above steps using the next code number as listed for your component brand until component switches off.

Remote Control
Universal Code List

BRAND LIST FOR TV

BRAND	Code List
ACER	315
ADMIRAL	130,144,170,175,209,223,297, 310
AKIO	108,118,119,124,153,170,186, 207, 294
AIWA	248,249,293
AKAI	105,108,118,124,129,153,170 186,196,199,207,209,225,246, 277,282,284,285,286,287,288, 294,310
ALBA	107,108,124,154,186,210,223, 246,274,300,310
AMSTRAD	108,124,141,149,170,186,231, 246,255,284,308
ANAM	108,114,123,124,162,186
APOLLO	281
AR, AR System	333,108,186,309
AUDIOSONIC	108,124,153,170,186,274,276, 208,287,288
AUDIOVOX	119,122,162,182
AUTOVOX	153,158,175,207,278,296,297, 305
AWA	108,124,153,170,186,231,285
BEKO	108,186,274,276,280,285,287, 288,294
BEST	274
BESTAR	108,186,274
BLAUPUNKT	150,151,169,289
BLUE SKY	108,154,174,186,246,287,288, 289,300
BOSCH-BAUER	208
BROTHER	170
BURNS	228,280,297
BUSH	017,108,124,153,154,170,174, 186,196,203,207,209,210,246, 287,300,301,305,310
CASADE	108,124,186
CASIO	108,186,305,310
CATHY	108,186
CENTURY	297
CGE	191,223,274,296,310

BRAND	Code List
CITIZEN	105,109,115,116,119,142,167, 173
CLARIVOX	108,186,223,229,295
CONCORDE	124
CONIC	213
CONRAD	108,186
CONTEC	107,108,124,152,162,166,170, 186
CONTINENTAL EDISON	251
CROWN	108,109,124,162,186,196,223, 229,274,276,285,287,288,296, 304,307,309
CYBERTRON	154
DAEWOO	108,109,119,124,129,153,182, 186,233
DENON	136
DIAMOND	170,301
DIGITRON	108,186
DIGILINE	108,186
DIGITOR	108,186
DUAL	108,153,186,207,305,310
ELBE-SHARP	284
ELEKTA	108,124,170,174,186
ELITE	108,142,154,186,196,208
EMERSON	108,109,129,139,141,157,160, 161,162,163,164,165,166,171, 173,174,183,186,207,274,276, 295,296,297,310
FERGUSON	108,186,207,294,298
FIDELITY	108,152,170,186,187,194,207, 231,310
FISHER	118,139,143,153,196,198,207, 228,274,297,298,305,310
FUJITSU	108,123,124,118,153,161,186, 207,225,229,310,322,323
FUJITSU General	124,153,310
FUNAI	149,161,162,170,211,231,300
GALAXI	108,186,207,229,310
GALAXIS	108,186,223,229,252,274

Remote Control Universal Code List

BRAND	Code List
GE	101,103,110,111,114,129,130, 135,160,174,182
GEC	108,118,153,186,205,207,213, 226,284,305,310
GENERAL Technic	124
GENESIS	124
GOLSTAR	105,106,108,109,115,120,121, 124,129,134,153,160,170,186, 203,207,213,225,250,274,285, 310,312
GOODMANS	107,108,118,124,153,161,170, 186,233,246,282,284,294,300, 312
GRANDA	108,118,153,186,196,199,225, 281,284,296,304,306,307,310
GRUNDIG	108,118,150,158,169,186.237, 270,274,295,296,302
HAIER	170,301
HARMAN KARDON	113
HATACHI	106,107,108,115,118,129,131, 132,136,138,140,144,153,156, 186,187,192,198,199,200,201, 204,205,206,207,209,213,214, 215,216,217,225,258,267,281, 282,283,284,299,305,306,307, 310,311
HMV	297
HYUNDAI	108,186
IMPERIAL	108,186,191,202,207,209,212, 223,274,296,305,310
INFINITY	113
ITT-NOKIA	161,196,207,268,273,277,281, 282,285,286,304,305,310
JACSON	226
JBL	113
JEC	142,294
JUBILEE	108
JVC	107,112,147,164,223,285
KATHREIN	108,186,187
KEC	162
KENWOOD	105,129,299
KONKA	108,1186,223,287
KTV	105,109,153,162,165,166,173
LEMAIR	212

BRAND	Code List
LENCO	108,124,170,186,233,256,298, 310
LG	108,115,124,129,153,186,207, 244,274,285,287,310,313
LOEWE	108,113,186,187,246,247,271, 272,274,275,290,308,313
LUXMAN	115
MAGNADYNE	207,229,262,284,297,310
MAGNAVOX	100,102,104,105,107,108,113, 161,167,168,186,213
MAGNUM	108,186,287,288
MANHATTAN	108,106,246,300,310
MARANTZ	105,108,113,186,187,231
MUSUDA	108,124,153,170,186
MATSI	108,118,124,125,114,153,186, 196,202,207,210,284,289,294, 305,310
MATSUSHITA	111,179
MITSUBISHI	107,108,129,130,133,137,158, 160,186,187,196,297
MITSURI General	310
MORGAN'S	108,186
MOTOROLA	114,130
NAD	129,142,146,160,207,310
NATIONAL	158
NEC	105,107,108,115,124,129,148, 153,186,289
NIKKO	105,110,119,127,129,139,142, 160
NOKIA	161,170,196,198,204,205,206, 207,209,253,273,281,282,283, 285,286,304,305,307,310
NORDMENDE	108,186,287,310
OMEGA	170
ONWA	162,229
ORION	108,124,141,157,161,170,183 186,207,208,210,211,229,231, 284,287
PALSONIC	108,153,170,186,231,310,334,335
PANASONIC	108,110,111,112,113,114,116, 120,130,136,137,139,142,144, 145,155,158,160,178,179,186, 207,209,284,310
PANAVISION	108,186,212

Remote Control Universal Code

BRAND	Code List
PHILCO	100,102,104,105,108,113,129, 136,167,168,183,186,223,262, 274,296,297,310
PHILIPS	100,101,102,103,104,108,109, 113,127,128,129,186,187,213, 225,238,240,249,297,314, 321,327,328,329,331
PHOENIX	108,118,186,274,276,297,310
PIONEER	108,144,146,186,187,207,274, 276,280,310
PRIMA	124,142,170,196,231
PROTON	122,129,160
PYE	108,186,231,297,305
QUASAR	111,114,124,145,179
RADIO SHACK	105,106,108,109,110,115,129, 139,145,160,162,186,196
RANK	295
RANK ARENA	107,295,316,317,318,319
RCA	110,111,128,129,130,135
RICOH	108,186
ROWA	153,170,301,303
SABA	144,205,207,209,297,284,310
SEGAM	174,239,289
SAMPO	105,106,109
SAMSUNG	105,106,108,109,115,116,118, 124,129,153,160,170,177,186, 187,196,225,237,274,310,312
SANSUI	108,183,186,289,302
SANYO	107,108,118,123,124,125,139, 143,153,164,186,196,197,198, 225,226,261,274,276,298,304, 309,310,313,320,324,325,326, 332
SCHAUB LORENZ	207,209,276,285,287,305
SCHNEIDER	108,153,154,170,186,207,236 246,253,257,262,287,300,305 310
SCOTT	129,157,160,161,162
SEC	107,108,124,153,170,186,228, 229,246,296,300,305,308,310
SHARP	107,109,130,145,284
SHIVAKI	108,186
SEIMENS	108,150,151,169,186,207
SIMPSON	167,168

BRAND	Code List
SINGER	108,124,186,229,262,297,310
SKY	108,186
SONY	106,107,108,125,130,164,172, 185,186,229,324,326,330
SUPRA	115,124
TADNDY	225
TANDBERG	207,212,308,310
TANDY	118,130,144,153,154,310
TATUNG	108,114,118,122,153,186,225, 284
TEAC	108,124,129,153,170,174,186, 187,207,223,231,246,262,289, 300,301,302,303,305
TEC TECHNICS	108,124,153,186,207,233,310 110,111,127,176
TECHNISAT	108,186,230,310
TEDELEX	108,124,153,186,196,285
TEKNIKA	109,113,115,116,119,126,129, 137,161,162,167
TELEFUNKEN	108,115,186,276
TEMPEST	108,124,186
TEVION	108,186,300
THOMSON	108,158,186,245,305
THORN	108,118,142,185,186,187,197, 198,207,213,215,226,227,294, 298,307
TOSHIBA	107,116,139,142,153,159,196, 198,229,270,294,295
TOYODA	124
TRIDENT	153,284
TRISTAR	170
VESTEL	108,153,186,246,300,310
VICTOR	112
VOXSON	108,114,186,209,223,296,297, 310
WEGA	107,108,186,297
WHARFEDALE	108,186
WHITE WESTINGHOUSE	108,152,186,196,208
WINTEL	287
YAMAHA	105,129
ZANUSSI	153,175,209
ZENITH	119,126,127

Remote Control Universal Code List

BRAND LIST FOR VCR

BRAND	Code List
ADMIRAL	121
AIKO	165
AIWA	100,111
AKAI	115,124,129,146,162
ALBA	105,135,154,165,167
AMSTRAD	100,165
AUDIOVOX	111
BLAUPUNKT	108,147
BUSH	135,154,165
CANON	109
CGE	100
CITIZEN	111,165
CROWN	105,135,165
DAEWOO	105,118,165
DENON	116
DUAL	115
ELBE	112
EMERSON	100,101,110,111,117,129,134,139,143,150,153,154,156,157,165,166,167,169
FERGUSON	115
FIDELITY	100
FISHER	119,120,125,132,141
FUJI	107,109
FUNAI	100
GE	109,121,128,131,152,161
GEC	137
GENERAL	105,123
GOLDSTAR	104,111,112,159
GOODMANS	100,105,111,130,135,165
GRANADA	119,137,141
HITACHI	100,115,116,131,138,142,144,148,160,161,170
IMPERIAL	100
ITT	115,119,141,161,163,170
JVC	102,115,133,170
KEC	111,165
KENWOOD	121,115,119,133,170
KODAK	109,111
LENCO	165
LOEWE	111,137
MAGNAVOX	100,109,113,137,140
MARANTZ	109,112,130,137,145,167
MATSUI	110,139,154,167
MATSUSHITA	109,147
MITSUBISHI	117,121,129,133,136,137,149,158,162

BRAND	Code List
MOTOROLA	109,121
NAD	127
NEC	112,114,115,133,138,141
NIKKO	111
NOKIA	115,116,119,137,141,161,163
NORDMENDE	115,170
OLYMPUS	109
ORION	101,110,139,143,150,153,154167
PANASONIC	109,147,159
PHILCO	109,112,154
PHILIPS	109,130,137,145,170
PIONEER	127,133,137,160
PYE	137
QUASAR	109,147
RADIO SHACK	100
RADIX	111
RCA	109,116,121,128,131,142,152,161
RICHO	108
ROADSTAR	111,135,161,165
SABA	115,170
SAMSUNG	118,121,124,161
SANSUI	100,115,133,138,164
SANYO	119,120,141,161,163
SCHAUB LORENZ	100,115,141
SCHNEIDER	100,135,137
SCOTT	117,118,143,150,155,156,157
SEG	161
SHARP	121,130
SIEMENS	111,125,137,141,145,163
SINGER	118,135
SONY	100,103,106,107,108,109
TATUNG	100,115,137
TEAC	100,115
TEC	105
TECHNICS	109,113,128,147,152
TELEFUNKEN	115,151,170
THOMSON	115,170
THORN	110,115,141
TOSHIBA	115,117,118,126,132,137,155157,170
VECTOR	118
WHITE WESTINGHOUSE	165
YAMAHA	112,115
ZENITH	100,107,108,113

Remote Control Universal Code List

BRAND LIST FOR DVD

BRAND	Code List
AIWA	116,126
AKAI	125,129,131,133,146,147
AKI	135
AMSTRAD	131
AUDIOSONIC	125
AWA	137
BLAUPUNKT	134
BLUE SKY	122,126,128,131
BUSH	124,125,126,128,131,134,143,149
CAMBRIDGE Audio	127
CELESTIAL	122
CENTREX	122,15
CONIA	122
CROWN	101,118,125
DAEWOO	101,128,129,132
DENON	115,142
DIAMOND	118
DIGIRED	134
DIGITREX	122
DUAL	118,120,131,137,143,145,147
EMERSON	110,129
FERGUSON	118
FUNAI	126
GE	134
GOLDASTAR	110.139
GOODMANS	118,125,145,147,149,150
GRUNDIG	118,121,126,129,131,147
HDT	129
HITACHI	109,119,120
HYUNDAI	145
JVC	102,111,157
KENWOOD	105,138,142
KODA	149
LENCO	101,118,128,143,149
LG	110,139,154
LOGIX	129,145
LUXMAN	109
MAGNAVOX	102,149
MATSUI	118,126
MICROSOFT	103
MITUSBISHI	131
MIZUDA	149
NAD	139
NAKIO	101
NORMENDE	143
OMNI	125,128

BRAND	Code List
ONKYO	102,112
ORION	126
ORITRON	118
PALSONIC	122,124
PANASONIC	142,155
PANDA	142
PHILIPS	106,156
PIONEER	151
RANK ARENA	135
RCA	103,118
ROADSTAR	124,125,128,131,149
ROWA	150
SABA	118
SAMSUNG	109,142
SANSUI	101,126,133
SANYO	121,126,147
SCHAUB LORENZ	101,146
SCHNEIDER	118,129,145,146,147
SCOTT	118,121,135
SEG	120,131
SHARP	113,126
SHERWOOD	114,134,139
SONY	104,109,153
TATUNG	101
TEAC	110,134,139,147
TECHNICS	142,155
TECHNIKA	101
THOMSON	103,107
TOSHIBA	102
VOXSON	137,143
WHARFEDALE	123,127
XBOX	103
YAMAHA	142
ZENITH	102,110,139

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